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ABSTRACT

The enactment of ESEA Title I in 1965, resulting in a flood of new programs, provided fertile grounds for doctoral dissertation research on the education of the disadvantaged. The ERIC/IRCD staff, believing that much could be learned about doctoral research itself, about children, and about educational programs, decided to attempt to provide comprehensive collections of abstracts in those areas of special interest to the center. This document is the sixth in the series of publications entitled ERIC/IRCD Doctoral Research Series. This annotated bibliography is organized with the citations falling in three sections entitled: "Studies of Puerto Rican Students on the Mainland"; "Comparisons of Puerto Rican Students with Those of Other Ethnic Groups"; and "Studies of Schools and Students in Puerto Rico." Subject, author, and institution access indexes are appended. (Author/JM)

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THE EDUCATION OF PUERTO RICAN CHILDREN AND YOUTH
AN ANNOTATED BIBLIOGRAPHY OF DOCTORAL DISSERTATIONS

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Preface

The seven years since the enactment of ESEA Title I in 1965 provided a unique opportunity for anthropologists, sociologists, psychologists, political scientists, educators, and others to attempt to find answers to unanswered questions about the teaching-learning process, especially in relation to minority group children and youth and to students from low socioeconomic backgrounds. Not only did the law provide extensive funds for compensatory and innovative programs, but it also mandated built-in evaluation measures. The flood of new programs provided fertile grounds for doctoral dissertation research on the education of the disadvantaged.

The plaintive cry of most students completing doctoral dissertations has been "all that work and where does it lead?" Bits and pieces of research throughout the country are entombed in Dissertation Abstracts International and in university libraries with only upcoming doctoral students forced to survey what has been done so that new outlines will not duplicate what has already been completed.

The ERIC/IRCD staff, believing that much could be learned about doctoral research itself, about children, and about educational programs, decided to attempt to provide comprehensive collections of abstracts in those areas of special interest to the Center. This document is one of several being prepared for a new series of publications entitled ERIC/IRCD Doctoral Research Series.

The first step taken was to do a computerized search, using the Datrix system, of the available tapes of Dissertation Abstracts International from 1965 to 1969 employing the following special descriptors: black, Puerto Rican, Mexican American, inner city, poverty, ghetto, urban, slum, rural, Negro, American Indian, and disadvantaged. The computer printouts of the resultant lists were then screened to eliminate all except those abstracts which clearly related to educational programs for the disadvantaged.

A hand search was then conducted for documents appearing in the January 1970 to June 1973 volumes to bring the collection as up to date as was possible at that time. Descriptors used for the hand search were: disadvantaged, desegregation, inner city, black, Negro, American Indian, Mexican American, Puerto Rican, (Spanish surname added later).

In all, over 1200 abstracts were photocopied, sorted, and indexed. All indexing in Dissertation Abstracts International is based on titles rather than on abstracts. There are limitations resulting from the omission of other descriptors and computer or human oversight.

It is expected that each of the collections will, by providing all related abstracts in one document, be of value to many lay, professional, school, and university groups.

Dissertations may be bought in microfilm or hard copy from University Microfilms, 300 N. Zeeb Road, Ann Arbor, Michigan 48106. Order numbers have been provided for each dissertation at the end of the citation. Prices have not been indicated because of past or possible future changes. In addition, dissertations may frequently be borrowed on inter-library loan from the sponsoring universities.

Each collection is organized in the following way. Documents are first grouped under main topics. Under the main headings, abstracts are presented in order of year of completion. Where a number of abstracts appear under a topic and in the same year, they are then arranged in alphabetical order by name of author. There is also a subject index, which includes several references for each abstract, an author index, and an institution index.

In the interest of objectivity and comprehensiveness, all appropriate documents have been included even though many present conflicting views, and do not necessarily represent the Center's policy or position.

The Center would like to be informed of other appropriate dissertations in these categories since there are plans to update and supplement these collections in the future. The name of the author, the title of the dissertation, and the month and year of completion is the only information required.

Other bibliographies in this series are:

Mexican Americans: An Annotated Bibliography of Doctoral Dissertations. 83 p. ED 076 714 (MF-$0.75; HC-$4.20).

School Desegregation: An Annotated Bibliography of Doctoral Dissertations. 142 p. ED 078 098 (MF-$0.75; HC-$6.60).

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Curriculum and Instruction for Minority Groups: An Annotated Bibliography of Doctoral Dissertations. 103 p.

Research on the Education of Black and Black-White Populations: An Annotated Bibliography of Doctoral Dissertations. 51 p.

Single copies of each are available free from ERIC/IRCD, Box 40, Teachers College, Columbia University, New York, N.Y. 10027, for as long as the supply lasts.

All of these bibliographies have been entered into the ERIC system. The "ED" identification numbers known at the time of this publication are noted above. These documents may be read in libraries and other facilities which house ERIC microfiche collections. Copies in either

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STUDIES OF PUERTO RICAN STUDENTS ON THE MAINLAND

1. Bucchioni, Eugene. A Sociological Analysis of the Functioning of Elementary Education for Puerto Rican children in The New York City Public Schools. New School for Social Research, 1965. 243p. 66-3950.

This study is a general sociological description and explanation of the functioning of elementary education for Puerto Rican children in New York City.

Although the New York City Board of Education has expressed much interest in and concern for the education of Puerto Rican children, and has established numerous special programs and projects, there is considerable evidence that:

1. Puerto Rican children are not achieving sufficient proficiency in reading, mathematics, and the other basic areas of the school curriculum.
2. The curriculum, methods of teaching and instructional materials are seldom related to the realities of the social and cultural milieu of Puerto Ricans in New York.
3. The Board of Education's democratic ideology of equality for all is resulting in many severe inequalities in the education of Puerto Rican children.
4. These inequalities further contribute to educational retardation among Puerto Rican pupils.
5. Elementary education for Puerto Rican pupils is based mainly upon a concept of life adjustment.
6. A conflict in values, which tends to detract from the success and effectiveness of the educational program, develops as middle class North American teachers and lower class Puerto Rican pupils interact in the classroom.
7. Finally, Puerto Rican children are not assisted by their attendance at school in adjusting to life in New York City, nor are they achieving the fundamental academic skills which, if acquired, could furnish Puerto Ricans with the prerequisite foundation for advanced education.

Data for the study were gathered through participant observation. In addition, some content analysis of relevant publications of the New York City Board of Education was performed.

The results of the study indicate that elementary education for Puerto Rican children in New York City functions in the context of a highly complex arrangement of rhetoric, myth, and realty. In general, this arrangement conceals the realities of education for Puerto Rican pupils by portraying it as successful and equal in all respects to the educational program offered to other children. The results of the study further indicate that the New York City school system has become, in effect, a middle-class sorting device whereby certain children--primarily North American children of middle-class background--are selected in elementary school for academic achievement of sufficiently high quality to insure the continuation of further education and ultimately the successful

attainment and retention of middle-class status. In this process Puerto Rican children are sorted out of the channels of successful educational achievement and widespread academic retardation occurs. Puerto Rican children are thereby eliminated from access to those opportunities based on education.

2. Sobrino, James F. Group Identification and Adjustment in Puerto Rican Adolescents. Yeshiva University, 1965. 164p. 65-11,987.

This study investigated some plausible relationships between reference group identification and adjustment in Puerto Rican adolescents living in New York City. Many investigators have contended that an individual's habits and attitudes are greatly influenced by the character of the groups to which he belongs, the extent to which he identifies with his group, and by the relation of his group to the rest of society. Previous investigations have attempted to correlate the direction of socialization with the individual's good or poor self-concept. Much research and writing has been done with other minority groups. However, there is a dearth of literature on the interpersonal relationships of the Puerto Ricans. With the increasing number of Puerto Rican children entering our school system each year, the importance of studies related to some of their adjustment problems becomes increasingly necessary. To help fill this void, the following hypotheses were formulated in order to study social adjustment among Puerto Rican Americans.

1. Social adjustment depends upon the solidity of the person's "anchor" in his own ethnic group; that is, the group with which he would be associated by others.

2. The group with which one identifies does not necessarily have to be the group in which one is most acceptable. That is, adjustment over a limited span of time may be sustained when a minority group member identifies with the majority group or "identifies with the aggressor."

3. Adjustment depends upon the closeness of the self-image with the idealized image.

The subjects studied were three hundred and sixty male and female Puerto Rican adolescents between the ages of twelve and eighteen. They were selected from four Catholic parochial schools, and from a child guidance clinic. The study involved the administration of the following measurements: 1. Semantic Differential Scale; 2. Questionnaire; 3. EPOS, as well as other measures. On the basis of these tests and other criteria, the subjects were further divided into three groups: 1. Clinic group: clearly maladjusted; 2. School maladjusted but not in therapy; 3. School well adjusted. Correlations were made on the basis of these groupings and the original hypotheses set forth..

Conclusions: In summary, the major hypotheses of this study were that we would find a relationship to adjustment in the way that Puerto Rican adolescents related to their own ingroup (Puerto Rican), the majority group (non-Puerto Rican American), and the closeness of their self-image with their idealized image. We have discovered that each of

the experimental groups appears to use somewhat different reference group formations. The clinic group seems more to identify with the majority group; the adjusted adolescent, depending upon age, seems to level distinctions between themselves and others while maintaining a favorable view of themselves; and the maladjusted but non-clinic group appears to view themselves more favorably than their performances would seem to justify.

Thus, it would appear important to follow-up this study with an investigation of this area which was organized around the following two factors:

1. Developmental level (cognitive differentiation), and 2. Appropriateness of self-concept in relation to significant social performances, e.g., school, athletics, social success.

In conclusion then, it should be observed that this study has made a first, somewhat imprecise, venture into an extremely complex and socially significant area and has uncovered, empirically, some of the parameters which future research may clarify.

3. Doob, Christopher Bates. The Development of Peer Group Relationships Among Puerto Rican Boys in East Harlem. Cornell University, 1967. 197p. 67-17,233.

This exploratory study is based upon eight months of participant-observation research done in East Harlem, New York City, between June 1966 and February 1967. The informants were boys and young men living upon one block in East Harlem as well as workers in a local community development organization. Ten individual cases and six group activities were examined and a number of conceptual conclusions reached.

It seems apparent that the youth of East Harlem form peer groups with differential effectiveness to seek collective goals, and these draw their members from different territorial ranges. A typology of peer groups is developed, and it is based upon effectiveness and range. Various factors that are instrumental in the orgins of the different types are examined. A concluding discussion concerns aspects of this research problem that could be examined in future studies.

4. Coleman, Robert Martin. A History and Evaluation of The New York University Workshop - Field Study in Puerto Rican Education and Culture (1948-1967). New York University, 1969. 309p. Advisor: W. Gabriel Carras. 70-756.

The purpose of this study was to describe and to analyze the purposes, the program, and the record of development of the New York University Workshop--Field Study in Puerto Rican Education and Culture from 1948 through 1967, and to evaluate its effectiveness. The problem was handled under the following subproblems:

Identification of the educational and cultural factors immediately preceding and leading to the establishment of the first New York University Workshop - Field Study in Puerto Rican Education and Culture.

Describing and analyzing problems and program of the first New York University Workshop - Field Study in Puerto Rican Education and Culture.

Describing and analyzing the development and the changes in the program of the New York University Workshop - Field Study in Puerto Education and Culture from 1948 through 1967.

Assessing the effectiveness of the New York University Workshop - Field Study in Puerto Rican Education and Culture in relation to its stated objectives.

New York City has experienced many waves of immigration from Europe. However, shortly after World War II, the city experienced a new type of immigration. These newcomers were not aliens, but American citizens from the island of Puerto Rico. The influx of Puerto Ricans into New York City public schools, the lack of valid tests for measuring their intelligence, their English language handicap, and the lack of specially trained teaching personnel all helped to complicate a school system already plagued with problems.

This period of influx, and the resultant concern of education officials, led New York University, through the persons of Ernest O. Melby, Dean of the School of Education, and Professor Robert K. Speer, Chairman of the Early Childhood and Elementary Education Department, to come forward and to offer its services and resources to help meet the new challenge of educating the Puerto Rican child.

Conferences were held with representatives of the New York City school system and New York University. The participants at the conferences recommended that New York University sponsor an in-service course for teachers and that this experience might well be followed by a summer travel and study experience in Puerto Rico. The research revealed that in response to these two requests, New York University initiated the Teachers Institute on Developing a Program of Education for the Puerto Ricans in New York City Schools, and in cooperation with the University of Puerto Rico the first New York University Workshop - Field Study in Puerto Rican Education and Culture and launched in 1948.

The record further revealed that the workshop was organized around specific objectives:

1. To provide participants with firsthand experiences that should help them better understand Puerto Rico--its people, its culture and its schools.
2. To help the Puerto Rican school population and their families make a better adjustment to school and community life by increasing the understanding of the school and agency personnel.
3. To increase the on-the-job effectiveness of the participants in

teaching Puerto Rican children.

4. To vitalize mutual respect through increased awareness of each other's cultural heritage and current achievements.

5. To encourage participants to make practical and realistic applications of their learnings as resource persons.

For each objective a listing of strengths and limitations was derived and for each limitation recommendations were suggested. The strengths and the recommendations were incorporated into "A Proposal to the U.S. Office of Education for an Institute for Advanced Study."

5. O'Brien, Sister Mary Gratia. Relationship of Self Perceptions of Puerto Rican and Non-Puerto Rican Parochial School Children To Selected School Related Variables. Fordham University, 1970. 119p. Advisor: Barbara W. Lake. 71-36.

This study sought to investigate by means of a self-report checklist the self-perceptions of Puerto Rican children in contrast to the self-perceptions of children of other ethnic backgrounds on the following variables: school achievement, teacher-ratings on behavior, mental ability, socio-economic status, and appraisal-perception.

The subject were 2796 children in grades 5, 6, and 7, who were in attendance at twelve elementary parochial schools in the Archdiocese of New York. Four groups were defined for comparison: Puerto Rican boys, Puerto Rican girls, Other boys, and Other girls. Boys were compared with girls of the same ethnic grouping and Puerto Rican children were compared with Other children of the same sex.

The investigator administered a Checklist of Trait Names twice in order to obtain two measures: the first, a measure of self-perception when the subject responded to the introductory phrase, "I think I am ..." and the second, a measure of appraisal-perception when the subject responded to the introductory phrase, "My teacher thinks I am ..." The following data were also accumulated for each subject: sex, ethnic background, measures of mental ability, achievement, socio-economic status, teacher-ratings on achievement, effort and conduct.

The data were analyzed by means of single classification analyses of variance for each variable in turn.

Comparing Puerto Rican boys with Puerto Rican girls, Other boys with Other girls, Puerto Rican boys with Other boys, and Puerto Rican girls with Other girls, the study addressed itself to the following questions:

1. When classified according to school achievement, were there significant differences between the mean self-perception scores of the groups?

2. When classified according to teacher-ratings on behavior, were there significant differences between the mean self-perception scores of the groups?

3. When classified according to mental ability, were there significant differences between the mean self-perception scores of the groups?

4. When classified according to socio-economic status, were there significant differences in the mean self-perception scores of the groups?

5. Were there significant differences between the relationships of the self-perception scores to the appraisal-perception scores of the groups?

The findings indicated that when mental ability and school achievement, as measured by standardized tests, were comparable the self-perceptions of Puerto Rican children did not differ from those of Other children. However, it was also found that when school achievement and classroom behavior, as measured by teacher ratings, were comparable the self-perceptions of Puerto Rican children were significantly lower than those of Other children. It was found, too, that when the socio-economic levels were comparable, the self-perceptions of Puerto Rican children were significantly lower than those of Other children. The relationships of the perception scores to the appraisal-perception scores were not found to be significantly different for Puerto Rican and Other children.

The study concluded that children of Puerto Rican background expressed significantly lower self-perceptions than did Other children when other than standardized tests were used for comparison. It seems that while these latter reflected a positive effect on self-perception, the teacher ratings and the socio-economic indices failed to communicate to the Puerto Rican children the comparable position they hold with Other children in school achievement, behavior in school, and socio-economic status.

6. Leach, John Nathaniel. Cultural Factors Affecting the Adjustment of Puerto Rican Children to Schooling in Hartford, Connecticut. The University of Connecticut, 1971. 109p. 71-29,883.

The cultural and social dissimilarities derived from the heterogeneity of their ethnic origins are among the factors that differentiate the residents of the twentieth-century American metropolis. Since urban growth has been largely the product of immigration from outside the city limits, a diverse and mixed population has always been characteristic of these places. Differences in origin have influenced many aspects of urban life; and it will be difficult to explain the development of the past or to project that of the future without taking account of those differences.

It is particularly neccessary to do so in the case of the Puerto Rican migrant. In any consideration of the future of urban centers, the question inevitably arises of what effect the distinctive composition of its population will have.

It was the purpose of this study to investigate the cultural factors affecting the adjustment of Puerto Rican children to schooling in Hartford, Connecticut.

Specifically, the study sought to compare Puerto Rican students in the Hartford public schools from the tobacco growing hill areas and the coastal sugar plantations to identify differences in their (1) language usage (2) social practices and conventions (3) attitudes toward legal authority and (4) attitudes toward literary pursuits, and to see whether such differences if they do exist, correlate with the relative success of the two groups in the different aspects of the school program. For example, do the hill people make better progress than the coastal people in learning to read English? etc.

This study attempts to show whether or not student groups representing two major subgroups of Puerto Rico differ from each other in selected cultural factors in the belief that differences, if they exist, may reflect educational advantages or disadvantages to students of a specific subgroup.

The investigation undertaken in this study was limited to students at Hartford Public High School.

The following hypotheses, stated in the null form, will be tested by statistical analyses:

1. There are no significant differences between the students from the coastal areas and the hill areas in English achievement.
2. There are no significant differences between the students from the coastal areas and the hill areas in mathematics achievement.
3. There are no significant differences between the students from the coastal areas and the hill areas in social studies achievement.
4. There are no significant differences between the students from the coastal areas and the hill areas in quality point average.
5. There are no significant differences between the students from the coastal areas and the hill areas in attendance.
6. There are no significant differences between the students from the coastal areas and the hill areas in tardiness.
7. There are no significant differences between the students from the coastal areas and the hill areas in school violations.

After careful examination of the data obtained in the study, the investigator reached the following conclusions:

1. No significant difference was found between the students of the coastal areas and the students of the hill areas in English, mathematics, social studies achievement, and quality point average.
2. No significant difference was found between the students of the coastal areas and the hill areas in attendance, school violations, and tardiness.

7. Naun, Robert John. Comparison of Group Counseling Approaches with Puerto Rican Boys in an Inner City High School. Fordham University, 1971. 139p. Advisor: Valda Robinson. 71-20,200.

The purpose of this study was to ascertain if two different approaches to group counseling had different effects on 31 ninth and tenth grade Puerto Rican boys, living in a federally designated poverty area, and attending an inner city high school. This study compared three groups, a group receiving interventionist counseling based upon the theory of Glasser's Reality Therapy, a group receiving non-interventionist counseling based upon the theory of Rogers and a group receiving no counseling at all.

The selected subjects were randomly assigned to three groups of 15, 15, and 14. The interventionist group met for 14 weekly sessions and the non-interventionist group for 13 sessions. The investigator acted as counselor for both groups.

In order to compare the effects of the different group counseling approaches, all subjects were administered the Occupational Aspiration Scale (O.A.S.) at the beginning and the end of the group counseling sessions. At the end of all the sessions, each of the subjects' teachers were asked to rate the subject as he was at the beginning of the term and how he was at the end. In addition, the experimenter computed grade averages, attendance, lateness percentages, and the number of disciplinary referrals. Finally, each subject in the two experimental groups was given the Relationship Questionnaire. The data obtained from these sources were then submitted to statistical treatment.

The following were the results of the analysis of the data:

1. The analysis of the means of the scores of the judges' ratings of randomly selected tapes for the two counseling approaches indicated there was a significant difference in counselor verbal response as measured by the three judges using the Counselor's Verbal Response Checklist (developed by the experimenter).
2. The different approaches to group counseling employed in this investigation did not result in significant changes in level of occupational aspiration as measured by the O.A.S., or in school and teacher ratings.
3. When each of the experimental groups was compared to the control group no significant difference was found in the level of occupational aspiration as measured by the O.A.S., or school behavior as measured by attendance, grade average, lateness, and teacher ratings.
4. The different approaches to group counseling employed in this investigation did not result in any significant differences on five of the six scales of the Relationship Questionnaire (Accurate Empathy, Genuineness, Overall Therapeutic Conditions, Intimacy and Immediacy of Interpersonal Contact, and Concreteness). Therefore, since two of the three essential ingredients for improvement in counseling (Accurate Empathy, Genuiness, and Nonpossessive Warmth), according to the research of Truax, showed no significant difference, it was concluded that in neither experimental approach did the subjects perceive the counselor in terms that would be considered more helpful, or more conductive to counseling.

5. The subjects in the non-interventionist group perceived the counselor as possessing the counseling characteristic of nonpossessive warmth to a higher degree than the same counselor using the interventionist approach.

6. The subjects in the group receiving the non-interventionist approach received significantly fewer number of referrals to the Dean.

8. Layden, Russell Glenn. The Relationship Between the Language of Instruction and the Development of Self-Concept, Classroom Climate and Achievement of Spanish Speaking Puerto Rican Children. University of Maryland, 1972. 191p. Advisor: Jacob D. Goering. 73-9704.

Purpose

This study was designed to investigate the Relationship Between the Language of Instruction and the Development of Self-Concept, Classroom Climate, and Achievement of Spanish Speaking Puerto Rican Children.

Rationale

The motivation to pursue this study was based on the idea that for linguistically handicapped children to achieve maximum self-development and human realization they must:

1. Retain the strengths of ethnic identity and cultural heritage.
2. Be able to see a clear and reasonable relationship between their goals and what they are asked to do in school.
3. Be educated in a classroom setting where opportunities for success are available and transition into a new sociocultural milieu avoids alienation.

Based on this rational the following hypotheses were formulated.

1. Puerto Rican children who receive instruction in their native language (Spanish) demonstrate more positive changes in self-concept than Puerto Rican children who receive instruction in a non-native language (English).
2. Puerto Rican children who receive instruction in their native language (Spanish) demonstrate a greater increase in overall achievement than Puerto Rican children who receive instruction in a non-native language (English).
3. The democratic climate of a Puerto Rican child's classroom is enhanced when the native language (Spanish) is utilized as the medium of instruction rather than a non-native language (English).

Procedure

Two groups, each composed of 28 third grade subjects, were instructed in a controlled language setting. The experimental (Spanish) group's language of instruction was Spanish, also referred to in this as the native language. The control group's (English) instructional program was carried out entirely in the English language. The subjects were randomly assigned to the two treatment groups. This study was carried out in an

old, densely populated city located in close proximity to New York City. The sample was selected from a school built nearly 100 years ago housing 1000 children K to 6th grade of whom 92% are Spanish speaking.

Both groups were administered pre-tests: The Pictorial Self-Concept Scale, The Inter-American Series Test of Reading, Level 2, Primary and The Inter-American Series, Test of General Ability, Level 2, Primary. The latter two instruments were in the Spanish language. At the end of a ten week interval both groups were administered post-tests of the Pictorial Self-Concept Scale. The Inter-American Series Test was also given in both the English and Spanish language version of the instrument. In addition the Hyman Authoritarian-Democratic Scale, an instrument which taps the democratic or authoritarian atmosphere of the classroom was administered to both groups at the conclusion of the experiment. The Hyman (A-D Scale) was administered in both the English and Spanish language.

The data were analyzed using a 2 x 2 factorial design. This design was used to test the effects of the language of instruction as well as the effect of sex and the interaction between them.

Findings and Conclusions

The analysis of the data indicated that no significant differences were found between groups on total Self-Concept. However, when the subscales scores were examined significance was detected in relationship to Self-Adjustive processes. Though no significant difference was found in the sub-scale score of Peer-Group processes the data did suggest that some group effect may exist. Hypothesis I was therefore not supported by the data but trends in the predicted direction were noted.

Hypothesis II was not supported by the data relative to Achievement and in fact the findings were in a direction opposite to that hypothesized.

The results of the interpreted Classroom Climate data indicate that a significant difference was found between groups. There appears to be a relationship between the langage of instruction of Puerto Rican children and the democratic climate of the classroom. Hypothesis III is therefore supported by the data suggesting that the native language of instruction does indeed influence Classroom Climate.

9. Oxman, Wendy G. The Effects of Ethnic Identity of Experimenter, Language of Experimental Task, and Bilingual vs. Non-Bilingual School Attendance on the Verbal Task Performance of Bilingual Children of Puerto Rican Background. Fordham University, 1972. 98p. Advisor: Paula Fuld. 72-20,595.

In this investigation of alienation among bilingual minority group children in fourth and fifth grade, the effects on a paired-associate learning task of the following factors were studied: (a) similarity of the ethnic identity of the experimenter to that of the child's own family,

(b) similarity of the language of the experimental task to that used by the child's own family, and (c) bilingual-non-bilingual school attendance of the subjects. In bilingual schools, adult members of the children's ethnic group were present, and the language of the children's families was used as a vehicle of instruction, whereas in non-bilingual schools the reverse was true.

This study sought to determine whether bilingual minority group children showed evidence of alienation from school in a non-bilingual school environment, and whether attendance at a school with a bilingual program might have prevented or alleviated that alienation. The presence of alienation was to be inferred from inferior performance on the paired-associate learning task. It was hypothesized that, if the subjects were alienated from school in a non-bilingual school environment, their performance on the task would be inferior for experimenters who were not of the same ethnic identity as the families of the subjects and inferior in the language of the dominant culture. Moreover, it was expected that performance would be superior, overall, in bilingual schools with either full bilingual programs or limited bilingual programs to performance in non-bilingual schools, and superior in fully bilingual schools to performance in limited bilingual schools.

A total of 256 fourth and fifth grade bilingual pupils of Puerto Rican background, attending one of two New York City bilingual schools or one of two comparable non-bilingual schools in the same city served as subjects. The paired associate verbal learning task was administered individually to a randomly selected sample of 64 subjects, equally divided as to grade level and sex, in each school. The stimuli, presented for two trials, consisted of sixteen arbitrarily paired pictures of common objects. The data analyzed were the total number of correct anticipatory responses on both trials.

Puerto Rican and non-Puerto Rican experimenters administered the task to an equal number of children, in English or in Spanish.

No significant differences were found among the mean scores of pupils tested under any of the experimental conditions in non-bilingual schools, nor was performance superior in bilingual schools to that in non-bilingual schools. It was therefore inferred that such pupils were not alienated. Pupils attending the bilingual school with a full bilingual program, however, scored significantly lower than did pupils attending the school with the limited bilingual program or the comparable non-bilingual school, indicating the possibility of increased, rather than reduced alienation in full bilingual schools. The scores of pupils tested by Puerto Rican experimenters in the limited bilingual school and the comparable non-bilingual school were significantly lower in Spanish vs. English, and, in the limited bilingual school, scores were lower in Spanish for non-Puerto Rican vs. Puerto Rican experimenters.

It was concluded that (a) bilingual minority group children were not alienated from school in a regular, non-bilingual school environment, that

(b) attendance at a fully bilingual school may be associated with an increase, rather than a decrease in alienation, and that (c) effects of race or ethnic identity of experimenter may reflect distraction from a verbal task rather than an attitudinal factor such as alienation.

COMPARISONS OF PUERTO RICAN STUDENTS WITH OTHER ETHNIC GROUPS

10. Beecher, Robert Houston. A Study of Social Distance Among Adolescents of Ethnic Minorities. New York University, 1968. 160 p. Adviser: Professor Dan W. Dodson. 68-11,780.

The purpose of this study was to examine the nature of social distance among certain selected adolescents of ethnic minorities in New York City. Specifically the investigation aimed at determining patterns of acceptance and rejection between Puerto Ricans and American Negroes.

Three hypotheses were tested. There were:

Hypothesis 1: Length of residence and residential proximity are related to the social distance patterns among adolescents of the selected ethnic groups.

Hypothesis 2: Color is related to the sociometric choices made by the children.

Hypothesis 3: Whenever either ethnic group, Negro or Puerto Rican, is in the minority, the acceptance scores will be higher than when both are in the majority or in the minority.

The first hypothesis was tested by determining the correlation between length of time in New York and the acceptance score on the Ohio Social Acceptance Scale. The correlation was .397 which was significant at the .05 level. The correlation between residential proximity and the acceptance score was one which was not significant. The social distance shown when Negroes rated Puerto Ricans on the Bogardus Scale was a mean score of .529; and the distance shown when Puerto Ricans rated Negroes was a mean score of .266. The t-ratio was calculated to be 5.307 which was significant at the .01 level. Here the hypothesis was partially substantiated.

To test the second hypothesis, photographs were used by teachers and the investigator to classify students as "light," "medium," or "dark." A polyserial correlation between the color of the skin and the acceptance score was determined. This yielded a correlation value of .05 which was not significant.

For the third hypothesis a t-test was calculated. Scores on the Ohio Social Acceptance Scale were not necessarily higher when Negroes were in a minority. Negroes were in a minority while Puerto Ricans were in a majority in four of the six groups. In one group, Negroes and Puerto Ricans were 40.5 per cent and 43.2 per cent, a majority-majority relationship, and "other" subjects, 16.3 per cent. In another, Negroes and Puerto Ricans were 16.2 per cent and 16.2 per cent respectively, a minority-minority relationship, and "other" subjects, 67.5. In the four groups in which Negroes were in a minority and Puerto Ricans were in a majority, acceptance scores were higher in three classes.

The mean value of the majority-majority and the minority-minority grouping was 108.59. On the other hand, when the other four groups were

in the minority-majority grouping the mean value was 105.61. This was a reversal of the direction hypothesized. When the t-test was calculated, the value was found to be .583. This is not significant at the .05 level. The hypothesis was not sustained.

Comparative observations suggest that the social climate of the school environment, rather than the variables measured in the study, was largely responsible for the positive relationship between the ethnic minorities, Negro and Puerto Ricans, of the sample.

11. Casner, Stephen Henry. Attitudinal Effects of an Experimental Learning Environment on Disadvantaged Children. The University of Connecticut, 1972. 121 p. 72-32,176.

The many problems that face education necessitate the need for experimentation with a student population. It is the purpose of this study to investigate the learning environment and the effects of experimentation upon student subjects.

The student who is involved in an innovative or experimental program receives a treatment related to a specific goal. This student is expected to change, but what of the student who does not receive this treatment. Does the experimental program have an effect upon the child who observes, goes to school with, and plays with the child receiving the treatment. This study analyzes then the non-experimental childs reaction to his classmates receiving this special attention. The study tests two groups, one in an environment where there are many programs in operation, the control group has only one program in operation, thus the experimental should reflect the effects of the experimental environment on the student population.

The literature infers that the lower socio-economic youth has a value set that differs markedly from the norm acceptable to the school, thus he is not readily accepted. This leads to a lower self-concept, his attitude reflects his poor opinion of himself and his peers. As the child matures, his attitude becomes more and more negative.

The subjects consisted of a random sample of twenty-five students in both the experimental and control groups. The students in the study were on the fifth grade level. The minority group population of both schools was 100%, one being 85% black, 15% Puerto Rican, the other 70% black, 30% Puerto Rican.

The instrument of testing was the School Attitude Inventory. The SAI consists of thirty-six pictures, accompanied by six statements. Each statement reflects the following feelings and attitudes: (A) Acceptance, (B) Interaction, (C) Adequacy, (D) Rejection, (E) Withdrawal, and (F) Inadequacy.

The result showed that the experimental group increased their scores reflecting positive self-concept, had more positive attitudes toward school, and adults in school, than the control group. They refuted inferences in the literature that they would increase their negative scores. Their positive scores increased rather than their negative scores. The results appear to indicate that the experimental environment helps children develop positive attitudes.

12. Halpern, Shelly. The Relationship Between Ethnic Group Membership and Sex and Aspects of Vocational Choice of Pre-College Black and Puerto Rican High School Students. Fordham University, 1972. 204 p. Adviser: Valda Robinson. 72-20,591.

This study sought to explore the relationship between sex and ethnic group membership and aspects of vocational choice. Specifically examined were the effects of sex and/or ethnic group membership on vocational maturity as measured by scores on the Attitude Scale of the Vocational Development Inventory (VDI), on vocational aspiration as measured by the Vocational Aspiration Scale (VAS), on the difference between vocational aspiration and expectation as measured by VAS discrepancy scores and on job values. Also examined were the correlations between VDI and VAS scores, and between VDI and VAS discrepancy scores.

The subjects were 255 tenth grade students from three New York City high schools enrolled in a pre-college program for poor and minority youth. The subjects were required to meet criteria of low socioeconomic status and of academic underachievement with high potential to participate in that program. Of those students, 82 were Black males, 116 were Black females, 33 were Puerto Rican males, and 24 were Puerto Rican females. The instruments were administered by the investigator to the students in their English class section, in groups of from eight to 31, over a period of seven weeks during the fall of 1969.

Because of non-equality or non-proportionality in cell frequencies, and in order to make the most efficient use of available data, multiple regression was used as a general variance analysis to answer the questions concerning mean score differences. Pearsonian product-moment correlations were computed to answer questions concerning correlations. Job values choices for each ethnic/sex group were converted to percentages and compared by inspection.

With reference to vocational maturity, it was found that the main effects of both sex and ethnic group membership were significant, with Black students tending to score higher than Puerto Rican students and with females tending to score higher than males. With reference to VAS scores, the effects of sex was significant, with males tending to score higher than females. With reference to VAS discrepancy scores, no significant differences were found. In no instance was the effect of interaction between ethnic group membership and sex significant. Such significant differences as were yielded must be viewed in light of the

small proportion of the variance accounted for by sex and ethnic group membership. An unexpected finding was that approximately ten per cent of each group responded to the VAS with inappropriately high choices.

Correlations between scores on the Attitude Scale of the VDI and VAS scores were significant at the .01 level for males, females, and Black females, and at the .05 level for Blacks and Black males. However, all correlations were less than .30.

Stated job values were related to sex and/or ethnic group membership. Job interest, an opportunity for self-expression, and an opportunity to help people were predominant choices for all groups. For no group did job security rank higher than fifth place.

Future studies were recommended to compare the responses of these students with similar students from a non-selective high school population, with students from more affluent minority families, with low achieveing students from both more affluent and poor families from the majority community, to determine whether the results are related primarily to socioeconomic status, ethnicity, or underachievement. Studies were also suggested which would explore: the meaning for poor and minority youth of choice, and of hoped for or expected occupation and occupation level; the conflicts generated by such questions; and the relationship of response set to scores of aspiration and expectation. Also recommended was the development of instruments measuring maturity and vocational aspiration which utilize a language idiom and cultural content more relevant to poor and minority youth.

13. Siu, Ping Kee. Relationships Between Motivational Patterns and Academic Achievement in Chinese and Puerto Rican Second- and Third-Grade Students. Fordham University, 1972. 126 p. Adviser: Bonnie L. Ballif. 73-1519.

This study was designed to investigate differences in patterns of motivational variables and factors, and the abilities of these variables and factors to predict academic achievement of second- and third-grade Chinese and Puerto Rican children.

Subjects were students enrolled in three public schools in lower-east Manhattan, New York, during 1970-1971 school year. A total of 198 Chinese and Puerto Rican pupils participated as subjects. There were 99 subjects from each cultural group matched on the following criteria: sex, grade, school experience, dominant language, and birthplace. Students' motivational levels were scores on three scales: Gumpgookies, a measure of motivation to achieve, Intellectual Achievement Responsibility Questionnaire, a measure of beliefs in internal versus external control, and Test Anxiety Scale for Children, a measure of anxious reactions in test situations. Gumpgookies was administered in English while the latter two scales were given bilingually by bilingual testers. Achievement levels were determined by the Metropolitan Achievement Test.

The profile analysis model suggested by Morrison (1967) was utilized in the comparison of the motivational patterns between the two cultural groups and for the two sexes within each group. The differences in shapes, levels, and measures of the patterns were reflected respectively by the interaction of the cultural groups with the motivational variables, the main effect of the cultural groups, and the main effect of motivational measures. The relationships of motivation to reading and arithmetic scores were determined by the stepwise regression analysis which provided a stepdown F test and t value to examine the regression effect at each stage the variable stepped in and the relative contribution of each of the regression weights. The homogeneity of the regression planes was tested by an F ratio. All the statistical procedures were applied to both sets of observations, one based on the three variables measured by Gumpgookies, IAR, and TASC, and the other on the five factors in Gumpgookies.

The motivational patterns based on the three variables were significantly different between the Chinese and Puerto Rican groups in terms of shape, level, and measure effects. The motivational patterns based on the five factors in Gumpgookies differed in mean level and scale means between the two subsamples, but not in the shapes of the patterns. In addition to the differences among the scale means, the difference between the two sexes in motivational pattern was significant only in Puerto Rican sample on the test anxiety scale. Puerto Rican girls had higher level of test anxiety than Puerto Rican boys.

It was also found that the three motivational variables combined correlated significantly with reading and arithmetic performance in both cultural groups. The five factor scores in Gumpgookies related significantly with the achievement in reading for the Puerto Ricans only. In general, the motivational variables or factors accounted for a greater proportion of variance on reading scores than on arithmetic scores. The regression weights derived from the different motivational variables varied in their predictive ability for the different criteria and for the different cultures. Similarly, the five factors that were found to associate with the achievement criteria in one culture were not found to predict the achievement criteria in the other. As indicated by the interaction between the two regression planes, the independent variables entered in the regression equation formulated a completely different pattern of association with the criteria for the two cultures.

The significant differences in motivational patterns and in relationships of motivational variables or factors with achievement between the Chinese and Puerto Rican groups point to the need for conceptualizing human motivation as a multidimensional construct and examining it within various cultural settings.

14. de Davila, Luz M. Santos. Recruitment of Candidates for the Teaching Profession through Future Teachers' Clubs in Puerto Rico. New York University, 1967. 193 p. Adviser: Dr. Edward H. Henderson. 67-11,138.

Statement of the Problem

The purpose of this study was to determine the extent to which the activities of the Future Teachers Clubs in Puerto Rico and cooperating agencies contribute to the recruitment of school teachers in Puerto Rico.

The basic problem of this study was divided into the following four sub-problems:

1. To determine the extent to which and how Future Teachers Clubs in Puerto Rico contribute to students' choice of teaching as a career.
2. To ascertain the extent to which other organizations and agencies interested in education contribute to recruitment for the teaching profession in Puerto Rico.
3. To determine how the activities of Future Teachers Clubs relate to the activities of other organizations and agencies with respect to recruitment for the teaching profession.
4. To determine the most successful recruitment practices reported and recommended in the literature on teacher recruitment and how these practices compare with those of Future Teachers Clubs and other organizations and agencies operating in Puerto Rico.

Procedures and Analysis

The data were obtained by means of questionnaires, interviews, attendance at activities of Future Teachers Clubs, a study of club records, and a review of the literature relating to teacher recruitment published from 1940 to 1960. The questionnaires and interview guide were developed according to the thirteen factors guiding this inquiry: economic reasons, parents or relatives, altruism, job freedom, working conditions, social position, realistic knowledge of the profession, prestige, guidance, public persuasion, security, activities of Future Teachers Clubs and other organizations and agencies interested in promoting education.

Analysis of the responses to the questionnaires and interviews and the analysis of the check lists used for the visits to club activities and of club records revealed that the Future Teachers Clubs and organizations or agencies in the community do not influence teacher recruitment in Puerto Rico. The data revealed that clubs, organizations, and agencies in the community have no relation to the actual process of personnel recruitment for the teaching profession. Analysis of questionnaires and interviews also revealed that economic reasons, altruism, working conditions, security, and social position are influential factors in the students' choices of teaching as a career. Guidance, working conditions, real knowledge of the profession, parents or relatives, institutions and

agencies, Future Teachers Clubs, job freedom, and public persuasion do not appear to be influential factors in students' choice of teaching.

The review of the literature revealed that there is almost no relationship between the recruitment practices of the United States and Puerto Rico. The United States practices tend to focus on Future Teachers Clubs, experiences with children, distribution of booklets and pamphlets about teaching, observation of career days and career month, and cadet teaching programs. Practices in Puerto Rico tend to focus on social activities, discussion of professional literature, and class observation.

Recommendations

The following were some of the recommendations derived from the highlights of the study:

1. An over-all program for selective recruitment should be planned cooperatively by a committee composed of representatives of the Colleges of Education, the Puerto Rico Teachers Association, and community organizations and agencies, such as Rotary and Lions Clubs, Chambers of Commerce, the Association for Supervision and Curriculum Development, and others. This same committee should plan possible approaches for the improvement of the clubs already organized. For example, criteria for the selection of members and advisors should be more detailed.
2. The Puerto Rico Teachers Association, the Department of Education, and the Colleges of Education should plan for the general orientation of secondary school principals and teachers regarding their role in teacher recruitment.
3. Orientation about the organization and operation of the clubs should be planned for club advisors.
4. The guidance program should be strengthened in order to give students more attention.

15. Berrios, Jorge Efrain. The Effects of Departmentalization on Achievement in Reading and Arithmetic on Fourth Grade Pupils in Public Schools of Puerto Rico. Lehigh University, 1970. 105 p. 71-10,497.

The practice of departmentalization is growing steadily in Puerto Rico. It may be questioned why this is so. The educational system of Puerto Rico has been modeled, to a considerable degree, after the pattern evolved in the continental United States. No evidence has been made available to the present as to the effects of departmentalization in the public elementary schools of Puerto Rico that would support the use of this type of organization, either for urban or rural schools.

The primary purpose of this study was to investigate the effects of the departmental type of organization for instruction on achievement in arithmetic and reading of fourth-grade pupils in public schools of Puerto Rico.

Specific questions to be answered were:

1. Are there differences in achievement in reading and arithmetic

between rural fourth-grade pupils who were taught in self-contained classrooms and comparable pupils who were taught under the departmental type of school organization?

2. Are there differences in achievement in reading and arithmetic between urban fourth-grade pupils who were taught in self-contained classrooms and comparable pupils who were taught under the departmental type of school organization?

3. Do pupils of different mental ability levels achieve differently under one type of school organization than under the other?

A secondary purpose of this study was to determine what difference, if any, exists in the preference of the pupils and teachers of rural and urban schools in Puerto Rico for the self-contained classroom or departmental type of school organization.

The subjects for the study consisted of pupils in 16 fourth-grade classes from rural and urban schools in Puerto Rico. There were two classes from each of eight school districts, one in departmental organization and the other in a self-contained classroom.

The test, Prueba de Lectura, Nivel Elemental, Grados 4,5,6, was used to secure data on the pupils' achievement in reading at the beginning and again at the end of the school year. Data on achievement in arithmetic was secured by means of the Test de Destrezas Basicas y Razonamiento en Aritmetica, Grados 4,5,6, which was given at the beginning and again at the end of the school year. The precentile rank corresponding to the score obtained on the Test Puertorriqueno de Habilidad General, Segundo Nivel, Grados 4,5,6, Forma A was used as the measure of general ability of the subjects in this study. Each class was divided into three ability groups, according to the percentile rank on the test of general ability: above average, those pupils with percentile ranks of 66 or above; average, those pupils with percentile ranks between 36 and 65; below average, those pupils with percentile ranks of 35 or less. The mean gain score for each ability group in each of the classes was then computed. This gave 24 mean gain scores for rural schools and 24 mean scores for urban schools in reading and in arithmetic. The mean gain scores in reading and in arithmetic were subjected to a two-way analysis of variance. Differences were accepted as significant if probability was equal to or less than .05.

Questionnaires prepared by the investigator were used in order to secure data related to the preference of the students and teachers. These questionnaires were administered prior to the final test to pupils in the 16 classes and their teachers. The preferences were tabulated for each class separately.

Analysis of the data revealed that:

1. There was a significant difference in gains in achievement in reading in favor of pupils under the departmental type of organization in the rural schools. (P is less than .05)

2. There was no significant difference in gains in achievement in arithmetic between pupils in departmentalized organization and those in

self-contained classes in the rural schools. (P is greater than .10)

3. There were no significant differences in gains in achievement in reading and arithmetic between pupils in departmentalized organization and those in self-contained classes in urban schools. (P is greater than .10)

4. There was no significant interaction in any of the analyses.

5. There was no consensus as to preference for either type of school organization among pupils in the rural schools, but the majority of the pupils in the urban schools stated a preference for the type of organization in which they were then enrolled.

6. The majority of the teachers in both types of organization stated a preference for the departmental type of organization. The majority also stated that they thought pupils would prefer the departmental type of organization.

16. Cole, Samuel Eugene. An Assessment of Mathematical Abilities of Secondary Students in Selected Schools of Puerto Rico. The University of Nebraska, 1970. 381 p. Adviser: James A. Rutledge. 71-3634.

By the use of the test batteries of the Y series of the National Longitudinal Study of Mathematical Abilities (prepared and administered by the School Mathematics Study Group), the problem was to measure the mathematical abilities of students in selected school of Puerto Rico by noting areas of relative strength or weakness as compared to the U.S. test results and by examination of the null hypotheses which follow: (1) no significant differences among the test results from the six regions, (2) no significant differences among the test results from the three types of schools, (3) no significant correlations between the various sections of the test batteries for each year, and (4) no significant gains in means for any test given in both fall and spring sessions.

The test batteries were translated to Spanish by the investigator, and the tests administered in 38 junior and senior high schools in Puerto Rico in the fall and spring of the school year 1968-1969. The selection of the schools was made in consultation with the mathematics supervisors of the six regions so as to represent the approximate student population for grades seven through eleven of the regions and type schools - urban, rural, and private. The number of students tested was about 7,600, diminishing from 2,000 seventh graders to 1,100 eleventh graders. The calculation of means, standard deviations, and correlations was carried out at the Computing Center of the University of Nebraska, using the CORCO program. The data presensation is by variables, containing from one to 60 items, which correspond to the scales of the NLSMA Reports. To determine whether a mathematical item should be considered a relative strength or weakness, the arbitrary relative percents of 80 and 40 were used as critical values. Appropriate "t" tests were used to examine the null hypotheses. Because of the low value for significance in the correlations, the arbitrary value of 0.4 was used to determine predictive potential. The instrument consisted of the tests contained in the NLSMA Report No. 2, the Puerto Rican Test of General Ability, and Beckmann's Mathematical Literacy Test. The batteries are divided into mathematical, cognitive, and preference sections.

Areas of relative strength which tended to be evident through the five grade levels were: operations with integers, order property of rationals, solution of linear equations in one unknown, laws of exponents, and distributive law. Areas of relative weakness were: finding averages, conversion of rationals, ratio and proportion, solution of literal equations and of linear equations in two or more unknowns, and solid and coordinate geometry. The null hypotheses were rejected at the .01 level. With respect to the regional and type school comparisons, 93% of the "t" values were less than the "t" values for the General Ability test results, indicating that most of the significant differences can be accounted for by the differences in mental ability. Of the correlations, only five percent were predictive (above 0.4), but 45% were significant at the .01 level. The mathematics sections correlated significantly among themselves in 67% of the cases, but only 11% had predictive potential. The non-mathematical sections correlated significantly with the mathematical sections in 38% of the cases, but predictively in less than one percent. Evidently the non-mathematical sections of the NLSMA tests are ineffective as predictors of mathematical achievement. Areas for further study are: determination of the causes of areas of weakness - whether lack of time or lack of proper presentation; determination of the true extent of differences in achievement between regions and type schools as function of mental ability; the effect of translation of materials on comprehension; and the effect of motivation on achievement.

17. De Pasarell, Claudina Luiggi. A Study to Determine the Effect of Kindergarten Experience on the Achievement of Students in Mathematics and Spanish in the First, Second, and Third Grades in a Selected Public School in Puerto Rico. New York University, 1970. 130 p. Adviser: Professor John S. Benben. 70-26,464.

This study examined the extent to which there were differences in the academic achievement at the end of the first, second and third grades of children in Puerto Rico, with and without kindergarten experience. Investigation was made through the administration of standardized mental capacity and achievement tests in mathematics, reading-readiness, and basic skills in Spanish reading to two groups of each grade, matched on the basis of participation and non-participation in the kindergarten program. The results of the achievement tests were compared to teachers' final grades in each subject, arithmetic and Spanish reading, to determine the degree of correlation between them.

The samples for the study were 240 first, second and third graders enrolled in an urban public school in Yauco, Puerto Rico. Data were collected during the school year 1967-68 by the administration of standardized tests of mental capacity, standardized achievement tests in mathematics and basic skills in Spanish reading, and the record of final grades in arithmetic and Spanish reading given by teachers at the end of the school year in May 1968.

A pre and post Collective Puerto Rican Test of Mental Capacity, Forms A and B, for Grades One, Two and Three was administered at the beginning and at the end of the study to determine possible differences in the variable of ability between groups of the same grade. Analyses of covariance were used to show differences in ability between groups of the same grade and also to correlate achievement of groups in the tests on basic skills in arithmetic and Spanish reading. Correlations were made of final grades in arithmetic and Spanish reading with achievement in the standardized tests. Significant differences beyond the .05 per cent level favoring the test-grades with kindergarten experience were found in the reading-readiness test, basic skills in Spanish reading and mathematics. The mean of the Spanish Reading Test for the second grade group with kindergarten experience was 78.7 against 78.5 for the non-kindergarten group indicating little difference. In mathematics also differences were not significant.

The results in the third grade were significant, favoring the kindergarten experimental group. The mean for the Spanish Reading Test was 82.3 against 78, achieved by the non-kindergarten group. In mathematics the kindergarten group showed significant differences. Differences in achievement begin to appear from the second grade on in skills other than language.

In the Mental Capacity Tests, pre and post administered to the first grades there were no significant differences between the two first grades. In the second grade there were significant differences favoring the kindergarten group in the post tests. In the third grade there was also a difference of 3 points favoring the kindergarten group in the pre and post tests. Significant differences in achievement among all groups appeared in Basic Skills in Spanish Reading. In mathematics, differentiations continued; favoring the second grade experimental group and with greater differences in the third grade. Significant gains in achievement resulted in reading from grade to grade in the kindergarten experienced groups. The correlation of teachers' final grades in arithmetic and Spanish reading with achievement in standardized tests on these subjects indicates that correlation is highly significant in mathematics in the second grade in both control and experimental groups. In the third grade, final teachers' grades are lower than pupils performance in achievement tests in both groups, but in Spanish reading the difference is significant for the kindergarten and non-kindergarten group.

Conclusions are that there is need of improvement of teachers evaluative measures, extensions of the public kindergarten programs, and establishment of district evaluation centers.

18. Stahl, Mary Theresa. A Basis for Art Education in Puerto Rico. Columbia University, 1971. 631 p. Adviser: Professor Edwin Ziegfeld. 72-28,714.

This is an interdisciplinary study which purports to establish some cultural and psychological foundations for art education programs in

Puerto Rico. In the Introduction it is proposed that art education is one area of human activity, interrelated with and contingent upon all human endeavor, and that all interrelationships between art educators, the community, and the wider international scene are of significance to the future of art education. Furthermore, that the interplay between art education as a theoretical discipline, existing art programs, art educators, particular communities, and the individual members of those communities, is directly related to the effectiveness of existing art programs.

Part I of the dissertation is concerned with a description and analysis of Puerto Rican art education as a social system with art and art education in their relation to the Puerto Rican economic, religious, political, social, and educational systems. Some aspects of customary behavior and of values are also considered. Chapter I details the teaching system, that which can be observed, its quantitative aspects. Chapter II is concerned with past and present manifestations of the arts in Puerto Rican culture, particularly of the plastic and visual arts, and lists some commonly found patterns of esthetic preference. These are considered part of the culture's implicit teaching system, influencing the individual's learning, his esthetic choices and his attitudes toward the arts. Chapter III investigates the relation of both the explicit and the implicit learning systems to modern Puerto Rico and to the world, to the past, and to the future. The material dealt with previously is reexamined against the wider cultural background and some pertinent historical antecedents. Particular attention is paid to evidence of change and stasis as it related to Puerto Rican art education and to the possibilities and limitations for making future program projections. Also described briefly are the Puerto Rican learner's and teacher's ethnic origins, physical surroundings, and society.

Part II examines the relationship of art education in Puerto Rico to the individual Puerto Rican and the relationship of the curriculum to both, as well as the dilemma of the teacher's and student's uniqueness, and consequently, the impossibility of investigating or describing this uniqueness of each learner and teacher in Puerto Rico. In Chapter IV it is posited that an art program must be tailored not only in accord with, or to interact with, the culture of society, but also to meet such unique needs as each and every learner might bring to the learning situation. The writer attempts to delve somewhat more deeply into those environmental factors and cultural traits which might be particular to the Puerto Rican art student's situation, the behavior of sub-cultures or other smaller groups to which the student belongs, to note some of his esthetic preferences, and to speculate about how these factors might interact with the individual or society and how all of these might affect individual learning. After this necessarily limited consideration of individuality, sub-cultures, and cultural pressure, Chapter V, examines the curriculum - the learner-teacher relationship and the program designed to facilitate their interaction with the subject matter: Art. Here the teacher is considered as the catalyst in the interaction between student and art, and in the individual student's development as this depends on his unique interaction with the curriculum.

The Conclusion includes a recapitulation and a series of recommendations or guideslines for educators seeking a basis for art education in Puerto Rico.

19. Sweet, Phyllis R. The Influences of Clique Characteristics on Academic Achievement of Puerto Rican Secondary School Students. Boston College, 1971. 290p. 71-24,121.

The purposes of this research were to: (1) develop a methodology for identifying the peer group or clique to which a student belonged; (2) develop a typology of such cliques based on the modal characteristics of personality, social status, intelligence and life goals of the clique; and (3) test a set of hypotheses relating these characteristics of cliques to academic achievement.

The data for this study was collected on some 1,700 high school students enrolled at the Agustin Stahl High School in the Bayamon Norte, Puerto Rico school district during 1967-1968. Each student answered about 8 hours of inventories and questionnaires including a sociometric question. Matrix multiplication techniques were used to identify and assign students to cliques. Cliques were formed into types using the modal characteristics analyzed by cluster analysis. The Taxonome computer program (Cattell et al, 1966) was used in the cluster analysis. Multivariate analysis of variance techniques were used to test hypotheses.

The results indicated that a typology of cliques based on modal characteristics could be formed. There were 3 types of cliques derived from the 62 cliques for which complete data were available. However, specific hypotheses relating the type of clique to academic achievement were not supported. The types of cliques were distinguishable on the basis of the personality traits: (1) self-assertiveness, (2) maturity, and (3) sociability; and on the basis of grade level.

Future research should indicate the power of peer group influence on various adolescent group-related phenomena. This methodology for identifying "desirable" cliques would allow the manipulation of cliques for particular purposes. The ability to manipulate cliques would be of inestimable value to a large number of occupations, particularly those dealing with such areas as drug rehabilitation and juvenile delinquency.

20. Tirado, Ramon Claudio. An Analysis of an Experimental High School in Puerto Rico. Columbia University, 1971. 271p. Advisor: William P. Anderson. 71-20,002.

This dissertation examines the development of an experimental high school in Puerto Rico. The study is descriptive rather than causative in nature. It does not have, therefore, the formal hypothesis of the "if x then y" type.

For the development of the study two different groups were used, i.e., the experimental students and the control group students. The study covers three school years.

Data for the study were collected from the school and college records and from two questionnaires, specifically designed and administered to the students and to the professional visitors who came to observe the experimental school. Data collected from the students' records were related to sex, annual family income, students' family size, the geographic area where the students lived and their intellectual potentiality. In the questionnaires the students and the professional visitors were asked to react in relation to areas such as the curriculum, the school faculty, the student body, the evaluation of the students' school work, the parents, and the school facilities.

Results of the study seem to indicate that Puerto Rico is on its way to the solution of some problems in education. Innovation in curriculum planning and its implementation, as well as in teaching methods techniques is being carried out with great possibilities in the experimental school. A new dimension of the teaching and learning processes has been created where teachers and students learn together. Exploration, tutorial-integrative guidance, and independent study are three new facets of instructional guidance incorporated in the curriculum of the experimental school under study.

The study revealed that a more flexible school organization, more participation of teachers and students in the formulation of school policies and in the curriculum, and that when a permissive environment is created so that students feel more at ease, the academic achievement is higher and the development of a democratic style of life is more prone to be developed. It is also showed that resentfulness from the part of the students arise mainly when they (the students) are submitted to a very structured program and when the students have little if any participation in the different school affairs.

The following are some of the recommendations made as part of the study:

1. That the experimental program at CROEM be continued so that the significant achievements already attained there may continue to serve as a working and tangible model to the educational system.
2. That the experimental school (CROEM) be used more extensively for in-service education through visitation and other methods of disseminating desirable educational practices such as those to which responses have been favorable in this study.
3. That further research be conducted to determine why CROEM serves students with certain characteristics better than other students and how the regular schools might adjust to serve the latter group better.
4. That further intensive research be conducted on experimental practices being engaged in at CROEM and on following up students, in college and at work, who have graduated from CROEM.

5. That at least one experimental day school be established in each of the six educational regions of the Department of Public Instruction. It is further proposed that these day schools be based on the general philosophy existing at CROEM.
6. Students in all experimental schools should have a voice in determining their own plans of study, the curriculum with individual courses, policy decisions and their own (self) evaluation.
7. That systems of communication be established whereby there will be maximum coordination between programs and experimentation at CROEM and with and among other experimental schools.

21. Court, Ian. In-Service Training Problems in Introducing a Foreign-Based Science Curriculum into Puerto Rico. University of Illinois at Urbana-Champaign, 1972. 97p. 72-19,813.

This thesis was designed to investigate some of the problems involved in using foreign-based science curricula in indigenous cultures. More particularly, it focused on the use of the Harvard Project Physics curriculum in Puerto Rico. The setting for the study was a ten-week in-service teacher training program for twenty-six junior and senior high school Puerto Rican Public School science teachers. This program was conducted in the San Juan Region of the Puerto Rican Public School System during the Spring of 1971. The training program was convened to introduce the Harvard Project Physics curriculum into the Island's senior high schools.

The study data were collected by means of taped interviews, written questions, and background material obtained from the files of the Puerto Rican Department of Public Instruction. The interview questions were designed to probe the teachers' attitudes towards the teaching of a foreign-based science curriculum, and to determine the primary factors which govern the successful implementation of such curricula in Puerto Rico. The written questions formed the basis of a tentative rating scale for measuring teachers' academic abilities. The theoretical basis for this rating scale had its origins in the cognitive development theory of Piaget. The scale relied on the idea that adults regress to the concrete operations stage of cognitive functioning from the formal operations stage when faced with unknown problems. In this way a test of the materials or methodology the teachers do know could be formulated. The background data collected consisted of the teachers' academic records as displayed on their official transcripts.

Three major factors affecting the teaching of science in Puerto Rico were revealed by the study. Firstly, the relative lack of training in mathematics of many students and teachers seriously inhibits the learning and teaching environments in science classes. Secondly, the general apathy and disdain for reading in the schools limited the type of science curriculum that could be used. And thirdly, the paucity of facilities and materials for the teaching of science, especially in the junior high schools, restricted the students' experience of science to non-practical

lecturing and reading in many cases. The study also showed that this lack of equipment produced apathy and a dislike for science on the part of the students, and bewilderment and frustration on the part of the teachers.

The study recommended several avenues of further research. These included an in-dept study of the reasons behind the low level of mathematical competence, and the disdain for reading, on the part of the students and teachers, and further development of the conceptual ability rating scale to improve its reliability and to expand its scope to include a student rating scale. The recommendations for improving science teaching in Puerto Rico included the organization of a repair and replacement service for science equipment to be performed by the teachers, the use of books that are either produced in Puerto Rico or, if foreign-based, are translated by persons who are both fluently bicultural and fluently bilingual, and a redirection of the teacher training programs in science in which the role of the laborstory would be emphasized in a practical manner. It was also recommended that teachers form an integral part of any curriculum development that is attempted since their close contact with the classroom environment would bring reality to such work.

22. de Guzman, Julia A. Gonzalez. An Investigation of the Vocabulary of Children When They Enter School in Three Areas of Puerto Rico. Lehigh University, 1972. 244p. 72-25,877.

There are noticeable differences in the educational achievement of children in the rural areas and those in the urban areas of Puerto Rico. Children in urban areas have achieved consistently higher on standardized tests in all subjects than those in rural areas. Children in the rural areas generally need from eight to twleve weeks to complete the readiness program in first grade while children in the urban areas need only four to eight weeks. The question is often raised why such differences exist since Puerto Rico has a centralized school system with similar programs of study, textbooks, materials, equipment and training of teachers for all schools. It may be that differences exist because there are differences in the vocabulary of young children of different areas when they enter school. It is also possible that there are differences in vocabulary of boys and girls in Puerto Rico. There is some indication in the literature that there may be differences in the language development of boys and girls.

The purpose of this study was to determine:

1. Are there differences in the vocabulary understood by the children of the mountainous, coastal and metropolitan areas of Puerto Rico?
2. Are there differences in the vocabulary used by the children of the mountainous, coastal and metropolitan areas of Puerto Rico in respect to: a) size of vocabulary?, b) diversity of vocabulary?, c) nature of words used?
3. Are there differences in the vocabulary understood and used by boys and girls in Puerto Rico?

The subjects for this study were 132 children (66 boys and 66 girls) who entered kindergarten in public schools in the mountainous, coastal and metropolitan areas of Puerto Rico, in August 1968; their mean age was 62.9 months as of September 1, 1969.

The verbal section of the test Prueba Colectiva Puertorriquena de Capacidad Mental, Nivel Primario, Grados 1, 2, 3, Formas A y B was used as a measure of the vocabulary understood by the children. A sample of the vocabulary used was obtained by having the subjects talk about 19 colored pictures which were shown to them.

Analysis of the data revealed that:

1. There were differences in the scores on the vocabulary test of the children of the three areas. Children in the metropolitan area responded correctly to more words than those in the mountainous and coastal areas ($p < .001$).
2. There was no significant difference in the scores on the vocabulary test of boys and girls ($p > .10$), but there was a significant interaction between sex and area ($.025 < p < .01$).
3. Subjects from the metropolitan area used more words and more different words than did those from the mountainous and coastal areas ($p < .001$), but there were no significant differences between subjects from the mountainous and coastal areas ($p > .10$).
4. There were no differences in the total number of words used and number of different words used by boys and girls ($p > .10$). Although girls had slightly larger vocabularies than boys in the both the mountainous and coastal areas, the reverse occurred in the metropolitan area. However, there was no significant interaction between sex and area ($p > .10$).
5. The ratio of deversity of vocabulary was greater for the subjects from the metropolitan area than for those from the mountainous and coastal areas ($p < .001$), but there was no significant difference between subjects from the mountainous and coastal areas ($p > .10$).
6. There was no difference in deversity of vocabulary between boys and girls ($p > .10$).
7. Differences were also noted in the nature of the words used by children in the metropolitan area. They used words related to a broader range of activities and experiences, with more precision, in more varied grammatical forms and in a greater number of inflected forms than did children from the mountainous and coastal areas.

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